

Title (en)
TUNGSTEN BASED SINTERED MATERIAL HAVING HIGH STRENGTH AND HIGH HARDNESS AND MOLD FOR HOT PRESS MOLDING OF OPTICAL GLASS LENS

Title (de)
AUF WOLFRAM BASIERENDES GESINTERTES MATERIAL MIT HOHER FESTIGKEIT UND HOHER HÄRTE UND FORM ZUM HEISSPRESSEN EINER OPTISCHEN GLASLINSE

Title (fr)
MATERIAU FRITTE A BASE DE TUNGSTENE TRES RESISTANT ET MOULE POUR PRESSAGE A CHAUD DE LENTILLES OPTIQUES

Publication
EP 1724369 B1 20101110 (EN)

Application
EP 04747742 A 20040713

Priority

- JP 2004010278 W 20040713
- JP 2004062251 A 20040305
- JP 2004070278 A 20040312
- JP 2004076757 A 20040317

Abstract (en)
[origin: EP1724369A1] A first tungsten-based sintered material of the present invention comprises Ni in a range from 0.2 to 1.5% by mass, Y₂O₃ in a range from 0.1 to 1% by mass, and optionally, (a) VC in a range from 0.05 to 0.5% by mass and/or (b) Co and/or Fe in a range from 0.01 to 5% by mass, the balance being tungsten (W); W phases are sinter-bonded; Ni phase or Ni-Co/Fe alloy phase which has the largest particle diameter of 5 μm or less and Y₂O₃ having the largest particle diameter of 5 μm or less are distributed at boundaries of the W phases; and the largest particle diameter of the W phase is 30 μm or less. The first tungsten-based sintered material is preferably used for a hot press mold for optical glass lenses.

IPC 8 full level
C22C 27/04 (2006.01); **C03B 11/08** (2006.01); **C22C 1/04** (2006.01)

CPC (source: EP KR US)
C03B 11/084 (2013.01 - EP US); **C22C 1/04** (2013.01 - KR); **C22C 1/045** (2013.01 - EP US); **C22C 1/05** (2013.01 - EP US); **C22C 27/04** (2013.01 - EP KR US); **C22C 32/00** (2013.01 - EP US); **B22F 2998/10** (2013.01 - EP US); **B22F 2999/00** (2013.01 - EP US); **C03B 2215/06** (2013.01 - EP US)

C-Set (source: EP KR US)

EP

1. **B22F 2999/00 + B22F 9/22 + B22F 2201/013**
2. **B22F 2999/00 + B22F 1/17 + B22F 9/22**
3. **B22F 2998/10 + B22F 1/12 + B22F 1/17 + B22F 3/02 + B22F 3/10**

KR

1. **B22F 2999/00 + B22F 1/17 + B22F 9/22**
2. **B22F 2998/10 + B22F 1/12 + B22F 1/17 + B22F 3/02 + B22F 3/10**

US

1. **B22F 2999/00 + B22F 1/17 + B22F 9/22**
2. **B22F 2999/00 + B22F 9/22 + B22F 2201/013**
3. **B22F 2998/10 + B22F 1/12 + B22F 1/17 + B22F 3/02 + B22F 3/10**

Designated contracting state (EPC)
DE GB

DOCDB simple family (publication)
EP 1724369 A1 20061122; EP 1724369 A4 20080416; EP 1724369 B1 20101110; DE 602004030047 D1 20101223; KR 101136765 B1 20120419; KR 101159086 B1 20120625; KR 20070026416 A 20070308; KR 20110094360 A 20110823; TW 200530408 A 20050916; TW I263682 B 20061011; US 2007169586 A1 20070726; US 7615094 B2 20091110; WO 2005085486 A1 20050915

DOCDB simple family (application)
EP 04747742 A 20040713; DE 602004030047 T 20040713; JP 2004010278 W 20040713; KR 20067018500 A 20040713; KR 20117018412 A 20040713; TW 93121007 A 20040714; US 59858504 A 20040713